



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

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San Francisco, CA 94105-3901

MAY 27 2010

Jim Abbott, Acting State Director
Bureau of Land Management
California State Office
2800 Cottage Way, Suite W-1623
Sacramento, CA 95825

Subject: Joint Draft Environmental Impact Statement and Staff Assessment for the
Imperial Valley Solar Project (formerly known as SES Solar Two), Imperial
County, California [CEQ# 20100050]

Dear Mr. Abbott:

The U.S. Environmental Protection Agency (EPA) has reviewed the Joint Draft Environmental Impact Statement (DEIS) and Staff Assessment for the Imperial Valley Solar Project (Project). Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act (CAA).

I am directing this comment letter to you because of our concerns over the Project's environmental impacts, insufficient evaluation of potentially environmentally preferable alternatives, and implications for other renewable energy projects that have been proposed on Bureau of Land Management (BLM) lands throughout our Region. In light of these concerns, and our recent adverse rating of BLM's Amargosa Solar Millenium Project in Nevada, (comments submitted on May 17, 2010), I would like to meet with you and BLM's Nevada State Director Ron Wenker in the next 30 days to discuss these issues further. I believe it is important for us to coordinate now to avoid unnecessary delays in the NEPA process as we all work toward the nation's renewable energy goals.

EPA supports increasing the development of renewable energy resources in an expeditious and well planned manner. Using renewable energy resources such as solar power can help the nation meet its energy requirements while reducing greenhouse gas emissions. While renewable energy facilities offer many environmental benefits, appropriate siting and design of such facilities is of paramount importance if the nation is to make optimum use of its renewable energy resources without unnecessarily depleting or degrading its water resources, wildlife habitats, recreational opportunities, and scenic vistas.

BLM has identified thirty-four proposed renewable energy projects as "fast track" projects that are expected to complete the environmental review process and be ready to break ground by December 2010 in order to be eligible for funding under the American Recovery and Reinvestment Act (Section 1603). Twenty-eight of these projects are located in our Region, of

which fourteen are located in California. We are aware that many more projects that have not been designated "fast-track" are also being considered by BLM. Many, if not all, of these projects, fast track or otherwise, are proposed for previously undeveloped sites on public lands. In making its decisions regarding whether or not to grant rights-of-way for such projects, we recommend that BLM consider a full range of reasonable alternatives to minimize the adverse environmental impacts. Such alternatives could include alternative technologies or altered project footprints at the proposed locations, as well as alternate sites, such as inactive mining or other disturbed sites that may offer advantages in terms of availability of infrastructure and less vulnerable habitats. Given the large number of renewable energy project applications currently under consideration, particularly in the Desert Southwest, we continue to encourage BLM to apply its land management authorities in a manner that will promote a long-term sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health.

On November 18, 2008, EPA provided extensive formal scoping comments for the proposed Project which included a variety of detailed recommendations regarding purpose and need, range of alternatives, water resources, and other resource areas of concern. On May 12, 2010, we submitted comments (enclosed) to the Army Corps of Engineers (Corps) on the March 15, 2010 Public Notice (Application for Permit) which highlighted our recommendations to comply with Section 404(b)(1) of the Clean Water Act Guidelines. EPA continues to work collaboratively with the Corps, fellow resource and regulatory agencies, and the applicant toward the goal of arriving at a permittable Project, while protecting natural resources.

Based on our review of the DEIS, we have rated the document as *Environmental Objections – Insufficient Information* (EO-2). Please see the enclosed "Summary of EPA Rating Definitions." An "EO" signifies that EPA's review of the DEIS has identified potential significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may involve substantial changes to the Project. A "2" rating signifies that the DEIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment.

We are particularly concerned about the potential impact of the proposed Project to waters of the United States, which serves as the primary basis for our "EO" rating. The Project proposes discharges of dredged or fill material that would eliminate 165 acres of jurisdictional desert streams and tributaries to the New River and the Salton Sea. As proposed, these discharges may result in substantial and unacceptable impacts to "aquatic resources of national importance" (ARNI). Further, the Project proposes placement of approximately 5,000 of the Project's 30,000 SunCatchers within areas subject to flash flooding and erosion. These placements raise environmental as well as engineering and financial sustainability concerns due to increased erosion, migration of channels, local scour, and potential destabilization and damage to valuable facilities and equipment. Through continued coordination on the Project, we have been encouraged by recently proposed design modifications which, if developed and approved, could reduce impacts to aquatic resources.

In addition to the above, we are concerned about the Project's potential impacts on groundwater. We note that, on May 10th the Project proponent released a Supplement to the Imperial Valley Solar Application for Certification to BLM and the California Energy Commission (CEC). That supplement includes analyses of project design modifications, and proposes, as an alternative water supply for the Project, a sole source aquifer that may already be over-appropriated. An analysis of this newly proposed water source and the potential environmental impacts of its use should be fully incorporated into the FEIS. Lastly, we have concerns that two of the three off-site alternatives included in the DEIS would have reduced impacts to key resources areas, but were eliminated from further consideration.

In the enclosed detailed comments, EPA further describes and provides specific recommendations pertaining to: 1) impacts to aquatic and biological resources; 2) impacts to endangered species and other species of concern; 3) impacts to air quality; 4) cumulative impacts from reasonably foreseeable future actions; 5) impacts to cultural resources and tribal consultation; 6) current justification for the Project purpose and need; and, 7) a reasonable range of alternatives.

Given the numerous outstanding concerns that have been raised by EPA as well as many other stakeholders on the Project as proposed, EPA strongly encourages BLM to address comments provided on the subject DEIS in the FEIS. The FEIS should also demonstrate that the proposed Project is the *Least Environmentally Damaging Practicable Alternative* (LEDPA), and identify measures that could mitigate the impacts. It should include a robust discussion of all avoidance and mitigation measures proposed for the Project and include an outline of the requirements of a compensatory mitigation plan.

We believe it is imperative that BLM, resource agencies and project applicants coordinate early with other agencies and stakeholders on site selection and project design in order to facilitate timely environmental reviews. EPA appreciates the opportunity to provide input on this Project and the multitude of DEISs under preparation for renewable energy projects in our Region. We are available to further discuss all recommendations provided. Please send one hard copy of the Final EIS and two CD ROM copies to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at 415-972-3843, or contact Tom Plenys, the lead reviewer for this Project. Tom can be reached at 415-972-3238 or plenys.thomas@epa.gov.

Sincerely,



Enrique Manzanilla, Director
Communities and Ecosystems Division

Enclosures: Summary of EPA Rating Definitions
Detailed Comments
US EPA Comments on Public Notice SPL-2008-01244-MLM, May 12, 2010

Cc: Jim Stobaugh, Program Manager, Bureau of Land Management
Tom Pogacnik, Deputy State Director, Bureau of Land Management
Ron Wenker, Nevada State Director, Bureau of Land Management
Colonel Thomas H. Magness, U.S. Army Corps of Engineers
Chris Meyer, California Energy Commission
Michelle Matson, U.S. Army Corps of Engineers
Felicia Sirchia, U. S. Fish and Wildlife Service
Becky Jones, California Department of Fish and Game
Ray Brady, Energy Policy Team Lead, Bureau of Land Management

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S EPA DETAILED COMMENTS ON THE JOINT DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) AND STAFF ASSESSMENT FOR THE IMPERIAL VALLEY SOLAR PROJECT, IMPERIAL COUNTY, CALIFORNIA, MAY 27, 2010

Project Description

Tessera Solar North America (Applicant) has submitted a right-of-way application to the Bureau of Land Management (BLM) to construct a solar thermal power plant facility approximately 14 miles west of El Centro, California in Imperial County. The Imperial Valley Solar Project (Project) (formerly known as SES Two) would be constructed in two phases utilizing SunCatcher technology, and would include approximately 30,000 25 kilowatt (kw) solar power dishes with a total generating capacity of approximately 750 megawatts (MW). Phase I would consist of up to 12,000 SunCatchers configured in arrays of 200 1.5 MW solar groups (60 SunCatchers/1.5 MW group) with a generating capacity of about 300 MW. Phase II would consist of approximately 18,000 SunCatchers configured in 500 1.5 MW groups with a net generating capacity of 450 MW. Each SunCatcher system consists of a 38x40 foot wide solar concentrator dish that supports an array of curved glass mirror facets designed to automatically track the sun and focus solar energy onto a Power Conversion Unit which generates electricity.

Related structures include a main services complex, assembly buildings, a 230-kilovolts (kV) electrical substation, access roads, and a 10-mile 230kV transmission line from the Project site to the existing substation. Additionally, water needs for the proposed Project would be met by a new 12 mile water supply line from the Seeley Waste Water Treatment Facility (SWWTF). The Project would be located on approximately 6,500 acres of land, including 6,140 acres of BLM-administered public land and approximately 360 acres of privately owned land.

EPA recommends that the Final EIS (FEIS) provide additional analyses (including any necessary supporting documentation) and identify specific minimization or mitigation measures, as appropriate, regarding the issue areas below.

Aquatic and Biological Resources

Compliance with Clean Water Act Section 404

The DEIS discloses that 878 acres of ephemeral waters of the United States (Waters) are located on the Project site (at pg. ES-29). These Waters are within the Salton Sea Transboundary Watershed and flow to the Westside Main Canal and Coyote Wash, tributaries to the New River which drains to the Salton Sea. These Waters provide sediment transport and deposition downstream, energy dissipation, ground water recharge, hydrologic and geochemical connectivity, as well as ecosystem connectivity to the New River and the Salton Sea.

According to the DEIS, the Project, as proposed by the Applicant, would result in a loss of approximately 165 acres of Waters that would be subject to permanent impacts, 5 acres of temporary impacts, and 13 acres of indirect impacts (at pg. C.2-2). The aquatic ecosystem will be dramatically altered by this Project through direct habitat loss and degradation, changes to

hydrological processes, likely increase in the velocity and volume of stormwater flows, sedimentation, and a potential increase in the discharge of pollutants from Project construction and operation. In addition, the proposed Project will degrade the functions of waters through the placement of road crossings, SunCatchers and fencing. The permanent loss of approximately 19% of all on-site waters, in addition to indirect impacts, is likely to:

- destroy habitat for wildlife;
- cause a potentially irreversible loss of biodiversity and ecosystem stability; and,
- degrade water quality, modifying sediment transport and flows.

The purpose of Section 404 of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of waters by prohibiting discharges of dredged or fill material that would result in avoidable or significant adverse impacts on the aquatic environment. EPA's *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA (Guidelines) provide the standards by which proposed discharges must be evaluated. The burden to demonstrate compliance with the Guidelines rests with the permit Applicant. The Guidelines contain four main requirements that must be met to obtain a Section 404 permit:

- a) Section 230.10(a) prohibits a discharge if there is a less environmentally damaging practicable alternative to the proposed Project.
- b) Section 230.10(b) prohibits discharges that will result in a violation of water quality standards or toxic effluent standards, jeopardize a threatened or endangered species, or violate requirements imposed to protect a marine sanctuary.
- c) Section 230.10(c) prohibits discharges that will cause or contribute to significant degradation of waters. Significant degradation may include individual or cumulative impacts to human health and welfare; fish and wildlife; ecosystem diversity, productivity and stability; and recreational, aesthetic or economic values.
- d) Section 230.10(d) prohibits discharges unless all appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

Requirements 230.10(a) and 230.10(d) are discussed further below.

Recommendation:

- Discuss and demonstrate compliance with the Guidelines in the FEIS.

Analysis of Alternatives – 40 CFR 230.10(a)

In order to comply with the Guidelines, the Applicant must comprehensively evaluate a range of alternatives to ensure that the “preferred” alternative is the *Least Environmentally Damaging Practicable Alternative* (LEDPA). Identification of the LEDPA is achieved by performing an alternatives analysis that estimates the direct, indirect, and cumulative impacts to jurisdictional waters resulting from a set of on- and off-site project alternatives. Project

alternatives that are not practicable and do not meet the project purpose are eliminated. The LEDPA is the remaining alternative with the fewest impacts to aquatic resources, so long as it does not have other significant adverse environmental consequences. Only when this analysis has been performed can the applicant and the permitting authority be assured that the selected alternative is the LEDPA (40 CFR 230.10(a)).

Over the course of the past several months, we have been working collaboratively with the Corps, fellow resource and regulatory agencies, and the Applicant on the proposed Project. On April 28, 2010, EPA met with the Applicant and the Corps to discuss new alternatives proposed by the Applicant to reduce impacts to aquatic resources. We appreciate the Applicant's effort toward compliance with the Guidelines. On May 12, 2010, EPA submitted comments to the Corps identifying our concerns with the Public Notice (Permit for Application). Given the importance of the desert ephemeral washes, which are tributaries to the New River and the Salton Sea, and the limited information currently available regarding the Project—particularly related to practicable alternatives with fewer impacts to aquatic resources—EPA determined that the project **may result** in substantial and unacceptable impacts to “aquatic resources of national importance” (ARNI), and identified the permit action as a candidate for elevation to the Corps' and EPA's respective headquarters.¹ The ephemeral waters at the Project site have been designated as ARNI due the hydrologic, biogeochemical, and habitat functions that directly affect the integrity and functional condition of waters downstream at the New River and the Salton Sea.

Based on our review of the DEIS and the Public Notice, additional information, including an offsite alternatives analysis, analysis of impacts associated with site design (*e.g.*, perimeter fencing and roads), and onsite alternative designs (*e.g.*, future development of in holdings, additional avoidance through removal of SunCatchers in drainages, alternative locations of substation, maintenance buildings, holding areas and assembly tents) is necessary in order to ensure authorization of the LEDPA.

At this time, the DEIS and the Public Notice provide minimal consideration of practicable alternatives in light of costs, logistics, and existing technology as required under the Guidelines, and, as a result, we cannot determine the extent to which each alternative is practicable and should be considered as the LEDPA. The DEIS presents four on-site alternatives including the Applicant's proposed 750 MW full build-out alternative, two 'Drainage Avoidance' alternatives, and a 300 MW reduced project size alternative. Additionally, the DEIS contains an evaluation of three off-site alternatives; however, these off-site alternatives are included for CEQA purposes only and are eliminated from further consideration under NEPA for their failure to meet BLM's purpose and need for the proposed Project (at pg. B.2-2). A full analysis of off-site alternatives is an integral component of the CWA 404 analysis. We strongly recommend off-site alternatives be given full consideration under NEPA and to demonstrate compliance with the Guidelines. The DEIS indicates that all three of the off-site alternatives would have less severe cultural and visual impacts than would occur at the proposed site, and two of the three alternative sites (located on disturbed lands) would also have reduced impacts to

¹ This letter follows the field level procedures outlined in the August 1992 Memorandum of Agreement between the EPA and the Department of the Army, Part IV, paragraph 3(a) regarding section 404(q) of the Clean Water Act.

biological resources (at pg. B.2-1). As previously mentioned, EPA supports the consideration of off-site alternatives on disturbed lands, including fallow agricultural lands, and other candidate parcels that are currently under consideration by BLM as a Solar Energy Study area.

As part of determining the LEDPA, the FEIS should further justify the elimination of the 300 MW Phase I as a practicable alternative. Based on the information in the DEIS, it appears that the Phase I alternative may be practicable and less environmentally damaging to jurisdictional waters when compared to the proposed Project alternative. It is our understanding that the Applicant has a Power Purchase Agreement with SDG&E to provide 300 MW of power once on-line. The FEIS should confirm that this is the case. In light of the contingency of Phase II of the Project upon the Sunrise Powerlink Transmission Line (SPTL) (at pg. B.1-19), it appears that the 300 MW alternative may have been considered by the Applicant or SDG&E to have independent utility. Additionally, SPTL appears to be further delayed based on the recent decision by the Cleveland National Forest Service Supervisor to open up the project for further public review. The FEIS should also discuss the implications to the proposed Project if the SPTL is not built. As such, a single 300 MW plant would be considered an on-site *less environmentally damaging, practicable alternative*, pursuant to the Guidelines. Finally, the FEIS should analyze a 300 MW alternative in a design configuration that avoids all impacts to Waters on-site.

Recommendation:

- EPA recommends that BLM include analyses of on- and off-site alternatives in the FEIS to support the identification of the LEDPA. Sufficient detail should be provided to allow for meaningful comparisons.

Minimize Potential Adverse Impacts, and Mitigation – 40 CFR 230.10(d)

Pursuant to the Guidelines, mitigation of project impacts begins with the avoidance and minimization of direct, indirect, and cumulative impacts to the aquatic ecosystem, followed by compensatory measures if a loss of aquatic functions and/or acreage is unavoidable. Compensatory mitigation is, therefore, intended only for unavoidable impacts to waters after the LEDPA has been determined. For this reason, it would be premature to examine in detail any mitigation proposal before compliance with 40 CFR 230.10(a) is established.

The DEIS has not clearly demonstrated that all practicable measures to minimize unavoidable impacts to potential waters of the United States have been incorporated into the proposed project design. For example, according to an April 26, 2010 *Preliminary Draft 404B-1 Alternatives Analysis For the Imperial Valley Solar Project*, all on-site design alternatives utilize the same location and footprint for the Main Service Complex, which results in 18 acres of permanent impacts to Waters. The FEIS should evaluate alternative locations, as well as the reconfiguration or redesign of building footprints within the Main Service Complex, to avoid jurisdictional waters. The FEIS should also discuss alternate designs that reduce the size of holding areas, and consider minimizing the number of temporary assembly tents required to outfit the facility. We note that the DEIS appears to indicate that only one assembly building is necessary (at pg. C.7-14).

Similarly, the FEIS should fully describe the potential for avoiding redundancy of arterial and perimeter roads, as well as further elimination of SunCatchers in drainages, which could result in avoidance of jurisdictional waters. The FEIS should provide additional details, including acres of Waters avoided, as a result of these avoidance measures. Avoidance of sensitive plant species should be an important consideration in the design and configuration of the SunCatcher layouts as well.

The DEIS also discusses two private inholdings, 640 acres and 160 acres, within the Project site. Through conversations with the Applicant and from the March 25th, 2010 transcript of the hearing before the California Energy Resources Conservation and Development Commission, it is our understanding that these inholdings are reasonably foreseeable parcels that are being pursued for purchase and incorporated into the site design. The FEIS should fully discuss the potential development of these inholdings and the potential additional SunCatchers that could be installed on each inholding. Placement of SunCatchers on these parcels, outside of drainages, could help alleviate the pressure to place SunCatchers within drainages on the currently accessible portion of the Project site. These foreseeable acquisitions could be used to balance additional energy output with the protection of high value drainages and avoidance of Waters throughout the site. The FEIS should also discuss the feasibility of using these reasonably foreseeable parcels as a location for components of the Main Services Complex.

Further, the proposed Project places 5,000 SunCatchers within areas subject to flash flooding and erosion (at pg. ES-28). The DEIS later indicates that this may be an underestimate of the actual number of SunCatchers that will be subject to flooding (at pg. C.7-13). SunCatchers within the floodplain could be subject to destabilization by stream scour (at pg. C.7-1). Additionally, impacts to soils related to wind erosion and runoff erosion are potentially significant, as are impacts to surface water quality from sedimentation and the introduction of foreign materials, including potential contaminants, to the project area (at pg. C.7-64). For all of the above reasons, the FEIS should fully utilize the inherent flexibility of the SunCatcher technology to fully avoid all impacts to jurisdictional waters. The FEIS should incorporate evaluation of alternative SunCatcher designs that are currently under discussion through the CWA 404 process.

The FEIS should also incorporate alternatives to avoid the 2.33 acres of Waters that are estimated to be impacted by the proposed water line. The DEIS describes options to lay the line underground as well as span on existing bridge crossings (at pg. C.2-12); however, the DEIS indicates impacts remain undetermined (at pg. C.2-30).

Finally, the DEIS provides no assessment of the cumulative impacts on waters of the United States that are likely to result from the proposed Project and other proposed energy-related projects in the area. In short, the Project, as proposed, does not comply with EPA's Guidelines, nor with the Corps' and EPA's regulations governing mitigation under Section 404 of the CWA.²

² Compensatory Mitigation for the Loss of Aquatic Resources, Final Rule, 33CFR 325 and 332, April 10, 2008.

Recommendations:

- Discuss the steps that will be taken to avoid and minimize impacts to waters of the United States. To the extent any aquatic features that could be affected by the Project are determined not to constitute waters of the United States, EPA recommends that the FEIS characterize the functions of such features and discuss potential mitigation.
- Include in the FEIS a mitigation plan for unavoidable impacts to waters of the United States, as required by Corps and EPA regulations.

Ephemeral Washes and Drainage

Natural washes perform a diversity of hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapted to their unique conditions. The potential damage that could result from disturbance of flat-bottomed washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems: adequate capacity for flood control, energy dissipation, and sediment movement, as well as impacts to valuable habitat for desert species.

The Project site provides forage, cover, roosting and nesting habitat for a variety of bird species. These waters also support the flat-tailed horned lizard (*Phrynosoma mcallii*) a species currently proposed for federal listing under the Endangered Species Act. In addition, Peninsula bighorn sheep (*Ovis Canadensis nelsoni*) which are federally-listed as endangered, were observed on the project site (at pg. C.2-24).

The FEIS should commit to the use of natural washes, in their present location and natural form and with adequate natural buffers, for flood control to the maximum extent practicable. Because placement of SunCatchers could result in erosion, migration of channels and local scour in excess of 5 feet in many cases (at pg. C.7-33), SunCatchers should not be placed in washes, to minimize direct and indirect impacts to the washes. The potential damage that could result from disturbance of flat-bottomed washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems: adequate capacity for flood control, energy dissipation, and sediment movement, as well as impacts to valuable habitat for desert species. The FEIS should demonstrate that downstream flows will not be disrupted due to proposed changes to any natural washes nor the excavation of large amounts of sediment.

Further, additional evaluation and comparison of the impacts of spanning versus various at-grade crossings, such as Arizona crossings or low flow culverts, should be provided in the FEIS (at pg. C.7-13).

Recommendations:

- To minimize direct and indirect impacts, such as erosion, migration of channels, and local scour, do not place SunCatchers in washes.

- Commit to the use of natural washes, in their present location and natural form and including adequate natural buffers, for flood control to the maximum extent practicable.
- Demonstrate that downstream flows will not be disrupted due to proposed changes to any natural washes or the excavation of large amounts of sediment.
- Minimize the number of road crossings over washes in order to minimize erosion, migration of channels, and scour. Road crossings should be designed to provide adequate flow through during large storm events.
- Locate facilities outside of waters. Estimate acreages and number of species protected as a result of alternative design configurations.

EPA is also concerned about the indirect impacts to the Salton Sea. As mentioned above, the ephemeral waters traversing the Project site flow to the Westside Main Canal and Coyote Wash, tributaries to the New River, which drains to the Salton Sea. The DEIS fails to assess the indirect impacts to the Salton Sea from the proposed Project. Indirect effects could include, but are not limited to: 1) changes in hydrology and sediment transport into the New River and Salton Sea; 2) increases in volume and velocity of polluted stormwater from impervious surfaces on the Project site; 3) decrease in water quality from the impairment of ecosystem services such as water filtration, groundwater recharge, and attenuation of floods; 4) disruption of hydrological and ecological connectivity from upstream of the Project to the Salton Sea; and 5) decreases in biodiversity and ecosystem stability. Ensuring maximum avoidance of Waters and, thereby, reducing potential discharges into waters should reduce the indirect effects to the New River and Salton Sea.

Recommendation:

- Maximize avoidance of Waters to reduce potential discharges into waters, as described above, to reduce indirect effects to New River and Salton Sea, which are waters of the United States.

The DEIS does not provide detailed information about the effects of fencing on drainage systems. The DEIS does indicate that appropriate fencing is still being determined in coordination with regulatory and resource agencies to protect sensitive ecological areas and address storm flows in washes (at B.1-6). In this region, storms can be sudden and severe, resulting in flash flooding. Fence design must address hydrologic criteria, as well as security performance criteria. The National Park Service recently published an article³ on the effects of the international boundary pedestrian fence on drainage systems and infrastructure. We recommend that BLM review this article to ensure that such issues are adequately addressed with this Project.

³ National Park Service, August 2008, Effects of the International Boundary Pedestrian Fence in the Vicinity of Lukeville, Arizona, on Drainage Systems and Infrastructure, Organ Pipe Cactus National Monument, Arizona,

Recommendation:

- Provide more detailed information about fencing and potential effects of fencing on drainage systems within the FEIS. Ensure that the fencing proposed for this Project will meet appropriate hydrologic performance standards.

Clean Water Act Section 303(d)

Section 303(d) of the CWA requires each State to develop, every two years, a list of impaired waters that do not meet water quality standards; to establish priority rankings of such waters; and to develop Total Maximum Daily Loads (TMDLs) for the pollutants causing impairment.

The State of California has listed the New River and the Salton Sea under CWA 303(d) as impaired water bodies. The New River is impaired by several pollutants/stressors such as pesticides and nutrients. The Salton Sea is impaired by nutrients, salinity and selenium (at pg. C.7-11). Wastewater, agricultural return flows, and industrial point sources are noted as sources. Increased degradation of water quality, modification of flow, and sedimentation will worsen existing impairments in these waterbodies and may adversely affect beneficial uses throughout the watershed.

Recommendation:

- Adopt measures, to be included in the Record of Decision (ROD), to avoid and minimize discharges into onsite waters, alteration of flow, and sedimentation to prevent further impairment of water quality downstream.

Water Supply and Groundwater Resources

The DEIS proposes to supply water for the Project via a new 12-mile water line from the Seeley Wastewater Treatment Plant (SWWTP). The DEIS indicates that a Mitigated Negative Declaration (MND) had been prepared for the necessary improvements to the SWWTP to increase its capacity (at pg. C.7-28). The recent lack of adoption of the MND by the County Water District Board of Directors, as described on page 1-1 of the May 10th Supplement to the Imperial Valley Solar Application for Certification (Supplement), has raised concerns as to the viability of the SWWTP as a water source for the Project. The FEIS should include an update on the recent decision and a full evaluation of the environmental impacts from the proposed SWWTP upgrades if it is still considered to be a viable water source for the proposed Project.

The DEIS indicates there is currently no backup water supply for the Project (at pg. C.7-40). The DEIS also indicates no groundwater would be used by the Project and, therefore, the effect on groundwater infiltration would be negligible (at pg. C.7-3). On May 10th, the Supplement was submitted to BLM and CEC which includes changes to the Project description and new analyses of project design modifications, and proposes a sole source aquifer as an alternative water supply for the Project. In light of the fundamental changes to the Project, the Supplement should be fully integrated into the FEIS and the FEIS should adequately respond to stakeholder comments.

Recommendations:

- Include an update on the proposed upgrades to the SWWTP and include a full evaluation of the environmental impacts from the proposed SWWTP.
- Fully integrate the recent Supplement into the FEIS.

Newly Proposed Alternative Water Supply

The Supplement indicates the Project will rely on up to 50 acre-feet per year (afy) of withdrawals from an Alternative Water Supply (AWS) within the Ocotillo-Coyote Wells Groundwater Basin (OCWGB), a federally designated sole source aquifer, until water is made available from the upgraded SWWTF. The Supplement concludes the withdrawals from the AWS will have no significant impact on water levels in the area nor exacerbate overdraft of the OCWGB. It is our understanding from the Applicant that the AWS will result in no net increase in pumping. If this is so, this should be disclosed and adequately supported in the FEIS.

Information in the Supplement raises questions regarding whether adequate afy at the AWS is actually available. The AWS well is currently capped at a production rate of 40 afy, but the Project will require up to 50 afy. The Supplement does not provide information on how much of the 40 afy is already committed to other users. The most recent data provided in Appendix B in the URS Groundwater Evaluation Report (in the Supplement) indicate 42.1 afy was withdrawn from the AWS in 2004. This is the last year of withdrawal data provided in the Supplement. The Supplement appears to assume that Imperial County will allow additional withdrawals above the 40 afy, but there is no acknowledgement provided from the County. In fact, the opposite may be true. For example, the recently released draft Environmental Impact Report (DEIR) for the Coyote Wells (CW) project (aka, Wind Zero project) is proposed within the OCWGB and near the Boyer Well. The CW project intends to use up to 67 afy. The CW DEIR acknowledges the OCWGB is in an overdraft condition. It includes numerous groundwater mitigation measures not included in the Supplement. (See <ftp://ftp.co.imperial.ca.us/icpds/eir/coyote-wells/19hydrology-water-quality.pdf>.) It is not clear whether URS considered in its analysis the planned withdrawals by the CW project or the mitigation measures proposed for the CW project.

There are also questions concerning how long the AWS will be needed. The "Will Serve Letter" in Appendix A indicates the AWS will be required for six-to-eleven months, but the Supplement does not commit to a time frame for needing the water. Unanticipated delays in the upgrade of the SWWTF could occur.

Finally, the Supplement does not indicate whether the AWS withdrawals would impact nearby residential/private wells.

Recommendations:

- Confirm the AWS will result in no net increase in pumping from the OCWGB.
- Address the discrepancy between the current 40 afy cap on the AWS and the increased 50 afy demand, and provide documentation that the County supports additional withdrawals from the AWS.

- Because the OCWGB may already be in an overdraft condition, the FEIS should discuss the level of impact the AWS would have on the overdraft conditions in the OCWGB.
- Discuss the applicability of the mitigation measures included in the CW DEIR and whether the CW project water demand was considered in the Supplement's analysis.
- Address whether the AWS withdrawals would impact nearby residential/private wells.
- In light of the recommendations above, the FEIS should confirm the availability of a water supply for construction and operations of the Project and fully evaluate the environmental impacts associated with the ultimately proposed supply of water.

The FEIS should also further describe groundwater availability for this Project in light of other projects within the region, as well as the uncertainty regarding potential cumulative impacts on groundwater resources. Given the potential for adverse impacts from pumping groundwater, it is important that all monitoring and mitigation information be provided to the public and decision makers. The proposed Project would permanently eliminate thousands of acres of wildlife habitat. In the arid Mojave Desert, habitat and the springs are critically important for several special status species that rely on water sources and wetland vegetation communities. Our recommendations are further discussed in this letter's 'Cumulative Impacts' section.

Endangered Species and Other Species of Concern

The site supports a diversity of mammals, birds, and reptiles, including some special status wildlife species. Grading on the plant site would result in direct impacts to some special status animal species and possibly special status plant species through the removal of vegetation that provides cover, foraging, and breeding habitat for wildlife (at pg. C.2-1). A group of Peninsular bighorn sheep were observed on the site and could use the Project site as foraging habitat and as a possible migratory corridor (at C.2-39). The DEIS speculates that the sheep may have arrived at the site after having become disoriented upon being flushed by OHV activity (at pg. C.2-24). It is our understanding that the US Fish and Wildlife Service (USFWS) will shortly make its determination whether to engage in consultation on this listed species. EPA has concerns that the DEIS did not fully consider the impacts to Peninsular bighorn sheep that may result from the proposed Project.

Additionally, over 6,000 acres of Flat-Tailed Horned Lizard (FTHL) habitat would be permanently impacted by the proposed Project (at pg. C.2-60). Long-term impacts may occur as a result of permanent loss of habitat, increased predation, and habitat fragmentation. Approximately 50% of the historical range of FTHL in California has been destroyed mainly by agricultural and urban development (at pg. C.2-71). Although FTHL is not currently listed, UFWS was recently instructed by federal district court to reinstate the proposal to list FTHL under the Endangered Species Act (ESA). EPA appreciates the extensive discussion on the impacts to FTHL as well the proposed mitigation measures and compensatory mitigation for approximately 6,600 acres of habitat, as directed by the FTHL Rangewide Management Strategy. The DEIS indicates that if listing of FTHL species should take place during the construction or

operation of the Project, the potential take and loss of habitat for the FTHL would need to be addressed by the BLM, in conferencing with the USFWS (at pg. C.2-1).

Proposed designs for the Project should avoid and minimize impacts to all federally threatened and endangered species, as well as BLM species of concern and State species of concern. In addition to bighorn sheep and FTHL, the site of the proposed Project includes sensitive species such as the American badger and the Western burrowing owl, among others. Any mitigation measures that result from consultation with the USFWS to protect sensitive biological resources should be included in the FEIS and, ultimately, the ROD. The FEIS should also clearly articulate under which alternatives sensitive biological resources, including the bighorn sheep, FTHL and American badger, would be least impacted and to what extent impacts can be mitigated.

Recommendations:

- EPA recommends BLM include the outcome of further discussions with, and future determinations or biological analyses by, the U.S. Fish and Wildlife Service in the FEIS pertaining to the Peninsular bighorn sheep and FTHL. Additionally, the FEIS should provide analysis of impacts on, and mitigation for, covered species, including:
 - Baseline conditions of habitats and populations of the covered species;
 - A clear description of how avoidance, mitigation, and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area;
 - Monitoring, reporting, and adaptive management efforts to ensure species and habitat conservation effectiveness.
- Incorporate complete information on the compensatory mitigation proposals (including quantification of acreages, estimates of species protected, costs to acquire compensatory lands, etc.) and analyze the environmental and economic trade-offs of acquiring the off-site lands versus reducing the size of on-site alternatives for equivalent protection.
- The FEIS should provide additional information to substantiate the finding that it is unlikely that FTHL would use the culverts to move between the Yuha Desert FTHL Management Area and the proposed Project site due to the long distance between these areas and lack of light along the length (at pg. C.2-22)
- The FEIS should consider establishing a corridor on the eastern portion of the site to facilitate surface flows and allow FTHL movement between zones consistent with the FTHL Rangewide Management Plan.
- The FEIS should also clearly articulate under which alternatives sensitive biological resources, including the Peninsular bighorn sheep and FTHL, would be least impacted and to what extent impacts can be mitigated.
- A clear commitment to implement mitigation measures to avoid and minimize adverse effects to the habitat of the Peninsular bighorn sheep, FTHL and other sensitive species should be made in the FEIS and, ultimately, the ROD.

Sensitive Plant Species and Vegetation

The DEIS indicates that CEC staff and BLM are concerned that special status plant species may have been overlooked due to inconsistent site surveys and varying levels of botanical expertise (at pg. ES-22, C.2-3 and C.2-20). The DEIS concludes that survey results were not considered adequate to assess presence or absence of a species within the project area.

It is EPA's understanding that the proposed Project will clear vegetation along 130 foot wide parallel rows of SunCatchers. Alternating 72 foot wide rows would be left undisturbed (at pg. C.7-34). The FEIS should further discuss how these cleared rows will increase the potential for sediment transfer in the cleared areas as mentioned on page C. 7-34. The DEIS also indicates that while grading would not occur on the entire site, grading would directly affect wildlife and other special status species by removal of shrubs and herbaceous vegetation, resulting in loss and fragmentation of cover, breeding, and foraging habitat. Severe damage involving vegetation removal and soil disturbance can take from 50 to 300 years for partial recovery; complete ecosystem recovery may require over 3,000 years (at pg. C.2-28). Further, during construction, wildlife could be crushed or entombed in dens or burrows, and could collide with vehicles (at pg. C.2-29). In light of these impacts, EPA has concerns as the vegetation removal and placement of facilities in the washes would have indirect effects that have not been fully assessed (at pg. C.2-2).

Recommendations:

- Incorporate BIO-19 into the FEIS and ROD which requires botanical surveys to be conducted and avoidance of rare plants during project construction and operation.
- Further discuss and quantify the expected direct and indirect effects of vegetation removal and placement of facilities under each alternative.
- Discuss and propose mitigation measures for the increased sediment transfer likely to result from the cleared rows between SunCatchers.
- Discuss the impacts associated with pile driving the SunCatcher pedestals into the ground and include mitigation measures to ensure maximum avoidance of sensitive species on site during construction.
- Discuss the impacts associated with connecting the SunCatchers by gas and electrical transmission lines buried in two foot wide trenches. Include mitigation measures to ensure maximum avoidance of sensitive species on site during construction.
- Discuss alternatives to any proposed vegetation mowing that would result from a maintenance regime. Excess mowing may suppress vegetation through carbohydrate starvation, reducing its water use, and discouraging reproduction by seed. Mowing is likely to promote proliferation of non-native invasive weeds as well.
- Mitigation measures that result from consultation with the US Fish and Wildlife Service to protect sensitive biological resources should be included in the FEIS and, ultimately, the ROD.

Air Quality

EPA agrees with the statement on page C.1-26 that a solar renewable energy project with a 30 to 40 year life in a setting likely to continue to be impacted by both local and upwind emission sources, should address its contribution to the potential ongoing nonattainment of the particulate matter (PM) 10 microns (PM₁₀), PM_{2.5} and ozone standards.

Recommendations:

- Imperial County was designated nonattainment for the 2006 PM_{2.5} standard in October 2009. The air quality analysis should be revised to take into account this designation.
- Footnote 6 on page C.1-41 should be updated to reflect EPA's final action on Imperial County's finding of attainment for the 1997 8-hour ozone standard, dated 12/3/2009; see 74 FR 63309.
- For page C.1-41, please note that, on December 22, 2009, EPA Region 9 Acting Regional Administrator Laura Yoshii formally non-concurred on CARB's May 21, 2009 exceptional events requests.
- Table 5 (at pg. C.1-12), Table 12 (at pg. C.1-21) and Table 13 (at pg. C.1-24) should be updated to include ozone.
- The FEIS and Record of Decision should incorporate requirements related to revised fugitive dust rules from Imperial County that are expected to be released in the coming months, as appropriate.

Mitigation Measures

EPA commends BLM for incorporating fugitive dust control measures to limit PM₁₀ impacts, and we appreciate the additional mitigation measures to address ozone precursors that are discussed on pages C.1-22 and C.1-25. We also were pleased at the inclusion of mitigation measure AQ-SC2 which would require the development of an Air Quality Construction Mitigation Plan (AQCMP) as well as engine requirements for diesel equipment specified by mitigation measure AQ-SC5.

EPA supports incorporating mitigation strategies to reduce or minimize fugitive dust emissions as well as more stringent emission controls for PM and ozone precursors for construction-related activity. All applicable state and local requirements and the additional and/or revised measures listed below should be included in the FEIS in order to reduce impacts associated with PM and toxic emissions from construction-related activities:

Recommendations:

Due to the serious nature of the PM₁₀, PM_{2.5} and 8-hour ozone conditions in the Salton Sea Air Basin, EPA recommends that the best available control measures (BACM) for these pollutants be implemented at all times and that the FEIS incorporate the AQCMP. These measures should also be incorporated into the ROD. We recommend that all applicable requirements under local rules and the following additional measures be incorporated into the AQCMP.

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing, and phase grading operations, where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage, and limit speeds to 15 miles per hour (mph) or lower. Limit speed of earth-moving equipment to 10 mph, 5 mph on unpaved roads and unsealed site areas.

Mobile and Stationary Source Controls:

- Reduce use, trips, and unnecessary idling from heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform at California Air Resources Board (CARB) and/or EPA certification, where applicable, levels and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. CARB has a number of mobile source anti-idling requirements. See their website at: <http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal or State Standards.
- Utilize EPA-registered particulate traps and other appropriate controls where suitable, to reduce emissions of diesel particulate matter and other pollutants at the construction site.

Administrative controls:

- Identify all commitments to reduce construction emissions and incorporate these reductions into the air quality analysis to reflect additional air quality improvements that would result from adopting specific air quality measures.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction, and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.) Meet CARB diesel fuel

requirement for off-road and on-highway (i.e., 15 ppm), and where appropriate use alternative fuels such as natural gas and electric.

- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Identify sensitive receptors in the project area, such as children, elderly, and infirm, and specify the means by which you will minimize impacts to these populations. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.

Greenhouse Gases

EPA commends CEC and BLM for including a substantive discussion on greenhouse gases as well as estimates of carbon dioxide emissions from the construction of the proposed Project. Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Effects on weather patterns, sea level, ocean acidification, chemical reaction rates, and precipitation rates can be expected. These changes may affect the proposed Project as well as the scope and intensity of impacts resulting from the proposed Project. The DEIS does not include measures to avoid, minimize, nor mitigate the effects of climate change on the proposed Project.

Recommendations:

- Consider how climate change could affect the proposed Project, specifically within sensitive areas, and assess how the impacts of the proposed Project could be exacerbated by climate change.
- Identify specific mitigation measures needed to 1) protect the Project from the effects of climate change, 2) reduce the Project's anticipated adverse air quality effects, and/or 3) promote pollution prevention or environmental stewardship.
- Identify strategies to effectively monitor for climate change impacts in the surrounding area, such as monitoring groundwater change or special status species.
- Quantify and disclose the anticipated climate change *benefits* of solar energy. We suggest quantifying the greenhouse gas emissions that would be produced by other types of electric generating facilities (solar, geothermal, natural gas, coal-burning, and nuclear) generating comparable amounts of electricity, and compiling and comparing these values.

Cumulative Impacts Analysis

According to the DEIS, a total of 72 projects and 649,440 acres of solar energy production and 61 projects and 433,721 acres of wind energy production are currently proposed for development in the California desert lands (at pg. C.8-40). While we acknowledge the identification of the reasonably foreseeable projects mentioned in the DEIS and the qualitative discussion of cumulative impacts in each resource chapter, the DEIS does not fully assess and quantify cumulative impacts associated with the Project, and does not adequately link the Project's effects to the health of the affected resources.

The FEIS and all future environmental analyses related to renewable energy, transmission, and development projects in the region should provide a comprehensive description of the associated elements of all foreseeable future actions. Specifically, the FEIS should disclose to the public the cumulative impacts that are anticipated when the impacts of the Project are considered along with those of all of the energy projects and development projects in the Project vicinity. "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR Part 1508.7). Incorporating this thorough analysis as part of this Project will help provide the context necessary to evaluate project related impacts into the future. These analyses should be summarized as part of the Cumulative Impacts Chapter, and should address the indirect and cumulative impacts associated with multiple large-scale solar projects proposed in the Desert Southwest on various resources, including: habitat, endangered species, groundwater, aquatic species, and air quality.

For example, the methodology used for the cumulative impacts air quality analysis appears to be quite robust; however, the results are not presented nor described. The methodology describes consideration of numerous projects in close proximity to the proposed project, but limits the scope of the cumulative impact analysis to only those projects occurring within 6 miles of the proposed project site. The scope of the cumulative impact analysis is limited to focus on 'localized' cumulative impacts; however, in an area in nonattainment for multiple criteria pollutants, including PM₁₀, the cumulative impacts analysis should cast a wider net. Without further information about projects in the region, it is difficult to conduct a thorough cumulative impacts analysis. The FEIS should include a more extensive analysis that defines the parameters of the analysis and the reasons for the establishment of those parameters.

Additionally, the DEIS presents a brief cumulative impacts discussion in the Soil and Water Resources chapter but does not provide detailed information nor in-depth analyses of potential impacts for any resource, including groundwater (at pg. C.7-14). Although the DEIS notes that no groundwater will be used by the Project, in light of the May 10th Supplement, the cumulative impacts analysis should be updated to account for the newly proposed water supply from the sole source aquifer. The FEIS should consider what will happen to groundwater levels if pumping continues at existing rates and address what might happen if there is an incremental increase associated with pumping due to the influx of large-scale solar projects in the area.

Finally, as an indirect result of providing additional power, it can be anticipated that this project will allow for development and population growth to occur in those areas that receive the generated electricity.

Recommendations:

- Update the list of reasonably foreseeable projects used in the air quality analysis to include all projects that may have impacts that may cumulatively affect the region ability to attain air quality goals.
- Adequately analyze the cumulative impacts, including further habitat fragmentation, to species, such as the FTHL, from the reasonably foreseeable energy projects and developments identified.

- Estimate the annual water use associated with the reasonably, foreseeable large-scale solar projects proposed in the Project's vicinity. BLM should be able to obtain this information, upon request, from proponents of viable projects.
- EPA recommends the FEIS clearly demonstrate whether there is sufficient groundwater for the lifetime of this Project and other reasonably foreseeable projects in the study area.
- EPA recommends the cumulative impacts analysis for groundwater include a discussion of the potential effect of future climate change on the proposed Project and groundwater development.
- EPA recommends that the ground water monitoring program be clearly defined and include a mitigation section for water resources. The ground water monitoring plan should describe the location of the monitoring wells and discuss contingency actions in the event of detection of contamination. The FEIS, and ultimately the Record of Decision (ROD), should include a commitment to the monitoring program and funding for the program.
- Address what measures would be taken, and by whom, should groundwater resources in the basin become overextended to the point that further curtailment is necessary due to, for example, additional growth, the influx of large-scale solar projects, drought, and the utilization of existing or pending water rights in the basin.
- Describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply. The document should provide an estimate of the amount of growth, likely location, and the biological and environmental resources at risk.

Cultural Resources and Coordination with Tribal Governments

Due to the extremely high frequency of identified cultural resources on or adjacent to the proposed Project site, the Project could have adverse effects on a presently unknown subset of approximately 328 known prehistoric and historical surface archaeological resources (at pg. ES-24). Impacts on an unknown number of buried archaeological deposits may also result, many of which may be determined historically significant (i.e., eligible for the National Register of Historic Places and the California Register of Historical Resources) (at pg. C.2-1). According to the DEIS, BLM has initiated consultation under Section 106 of the National Historic Preservation Act (NHPA) (at pg. C.2-1). The DEIS indicates that CUL-1 would resolve effects under Section 106 of NHPA on known and newly found cultural resources (at pg. C.2-145).

Recommendations:

- Given the magnitude of potential impacts to cultural and historic resources, we recommend that the FEIS include a more detailed discussion of mitigation measures and design guidelines to avoid, minimize and compensate for adverse impacts. We recommend that these measures be adopted in the Record of Decision (ROD).
- Include in the FEIS the completed Section 106 Programmatic Agreement and mitigation plans. Alternatively, discuss the process and timeline for completing the Section 106 consultation process.

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes.

Recommendation:

- The FEIS should summarize the process and outcome of government-to-government consultation between the BLM and each of the tribal governments within the Project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative.

Consultation for tribal cultural resources is required under Section 106 of NHPA. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO). Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800.

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian Religious practitioners, and to avoid adversely affecting the physical integrity, accessibility, or use of sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site. We do note that BLM had requested assistance in identifying sacred sites affected by the proposed Project (at pg. C.2-78).

Recommendation:

- The FEIS should address Executive Order 13007, distinguish it from Section 106 of the NHPA, and discuss how the BLM will avoid adversely affecting the physical integrity, accessibility, or use of sacred sites, if they exist.

Project Purpose and Need

EPA believes the discussion in the DEIS regarding the purpose and need for the Project should be expanded. As we indicated in our scoping comments, the *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

Building upon the comment above, the Purpose and Need for a project should be broad enough to spur identification of the full breadth of a reasonable range of alternatives, regardless of what the future findings of an alternatives analysis may be. It is critical that the Purpose and Need should not prescribe a solution, nor should it imply a predetermined solution, such as a specific type of renewable energy plant in a specific location that generates a specific amount of

power. The Purpose and Need should focus on the underlying problems to address (e.g., lack of capacity to serve an increasing demand for energy, or the need to develop sufficient renewable energy to meet State renewable portfolio standards). A solar power plant may be an integral component of the potential solution to the problems identified in a Purpose and Need discussion; however, the Purpose and Need should allow for the analysis of a full scope of alternatives, including off-site locations, environmentally preferable on-site alternatives or other modes of renewable energy generation.

For NEPA purposes, the DEIS eliminates all off-site and alternative technology alternatives from consideration. The analysis of potential on-site alternatives includes the proposed action, two reduced drainage alternatives and a single reduced size alternative. Such a narrow range of alternatives is, in part, influenced by the BLM's narrowly defined Purpose. According to the DEIS, BLM's purpose and need for the proposed action is to approve, approve with modifications, or deny issuance of a Right-of-Way (ROW) grant for the Project (at pg. A-12). EPA understands the rationale in considering the "federal" Purpose and Need for the Project; however, EPA recommends that the FEIS further characterize the "project" Purpose and Need as part of BLM's statement of purpose. BLM's purpose statement should be broad enough to allow for a reasonable range of alternatives, including environmentally preferable alternatives. It is our understanding that BLM has considered other potential areas for future renewable energy development, including other BLM sites, private lands and previously disturbed sites; however, BLM's purpose statement appears too narrowly focused on the potential Project site, and this unduly limits the alternatives carried forward for further analysis in the DEIS.

Recommendation:

- The FEIS should reflect a broader purpose and need statement that allows for a full evaluation of other alternatives, including off-site locations and other environmentally preferable on-site alternatives.

Additionally, as indicated in our scoping comments, this section of the FEIS should discuss the proposed Project in the context of the larger energy market that this Project would serve. While the DEIS appears to indicate the need for the proposed Project has its basis in Federal orders and laws that require government agencies to evaluate energy generation projects and facilitate the development of renewable energy sources, EPA does not believe the current Purpose and Need section fully describes the specific Federal, State, and individual utility power provider renewable energy targets, timelines, and underlying needs to which BLM is responding. EPA believes this context is imperative for decision makers and the public to have, in light of the large number of renewable energy projects moving forward.

Presumably, some number of renewable energy facilities will be constructed pursuant to the joint Department of Energy (DOE)/BLM Programmatic Solar DEIS effort as well as the Desert Renewable Energy Conservation Plan (DRECP) process. It would be helpful to know the likely locations, construction timing, and generation capacities of such facilities relative to the proposed Project.

Recommendations:

- Fully describe the specific Federal and State renewable energy targets, timelines, and underlying needs to which BLM is responding, and explain how the Project meets those needs in the context of the many renewable energy project applications in the Desert Southwest and California.
- To the extent practicable, the FEIS should discuss how many of the total renewable energy applications received by BLM are likely to proceed pursuant to the joint Department of Energy (DOE)/BLM Programmatic Solar DEIS effort and the Desert Renewable Energy Conservation Plan (DRECP) process, and the level of energy production those applications represent.
- Further describe the utility purchases of power and provide a description of how the power would be bought, sold, and used so that the reader can better evaluate the tradeoffs between resource protection and power generation.

Reasonable Range of Alternatives Analysis

CEQ Regulations for implementing NEPA (40 CFR, Parts 1500 - 1508) state that the alternatives section of an EIS should “rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly describe the reasons for their having been eliminated” (40 CFR, part 1502.14). All reasonable alternatives that fulfill the purpose of the project’s purpose and need should be evaluated in detail, including alternatives outside the legal jurisdiction of the BLM (Council on Environmental Quality’s (CEQ) Forty Questions⁴, #2a and #2b).

The DEIS indicates that BLM interprets the above to apply to “exceptional circumstance” and limits its application to broad, programmatic EISs that would involve multiple agencies. The DEIS further indicates the “purpose and need statement should be constructed to reflect BLM’s discretion consistent with its decision space under its statutory and regulatory requirements. Thus, alternatives that are not within BLM jurisdiction would not be considered reasonable” (at pg. B.2-7). The FEIS should cite the specific regulation or BLM policy that overrides CEQ’s guidance and supports this claim. Further, BLM should discuss this issue in the context of the recent decision to include an off-site alternative in the recently released Ivanpah Solar Electric Generating System Supplemental DEIS for which BLM serves as the lead Federal agency. We commend BLM for the decision to incorporate off-site, potentially environmentally preferable alternatives on that project.

Additionally, as discussed above regarding the CWA Section 404 Alternatives Analysis, a full evaluation of off-site alternatives will be necessary to support a LEDPA demonstration.

As stated in our scoping comments, reasonable alternatives should include, but are not necessarily limited to, alternative sites, capacities, and technologies as well as alternatives that identify environmentally sensitive areas or areas with potential use conflicts. A robust range of alternatives will include more options for avoiding significant environmental impacts.

⁴Forty Most Asked Questions Concerning CEQ’s NEPA Regulations, 40 CFR Parts 1500-1508, Federal Register, Vol. 46, No. 55, March 23, 1981.

Recommendations:

- Include supporting documentation and additional discussion on BLM's rationale for the elimination of off-site alternatives from further consideration under NEPA.
- Clearly identify the economic criteria used for analyzing alternatives. As appropriate, fully consider alternatives rejected in the earlier analysis. If a cost-benefit analysis of the proposed Project and the various alternatives has been completed, it should be incorporated by reference in, or appended to, the FEIS (40 CFR 1502.23) and summarized in the Executive Summary.

Consideration of Disturbed Site Alternatives

As additional alternatives are considered for evaluation in the FEIS, as well for future projects, EPA continues to recommend the identification of locations that have been previously disturbed or contaminated. The FEIS should discuss any methods or tools BLM has used to identify and compare locations for siting renewable energy facilities, and to ascertain whether or not any disturbed sites are available that would be suitable for the proposed project. For example, the EPA's Re-Powering America initiative works to identify disturbed and contaminated lands appropriate for renewable energy development. For more information on that initiative, visit <http://www.epa.gov/oswercpa/>.

Recommendations:

- EPA strongly encourages BLM to promote the siting of renewable energy projects on disturbed, degraded, and contaminated sites, before considering large tracts of undisturbed public lands.
- The FEIS should include information regarding all criteria used to evaluate the Project site and alternatives.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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MAY 12 2010

Colonel Thomas H. Magness
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P.O. Box 532711
Los Angeles, California 90053-2325

Subject: Public Notice (PN) SPL-2008-01244-MLM for the proposed Imperial Valley Solar Project, Tessera Solar North America, Imperial County, California

Dear Colonel Magness:

This letter is in response to your March 15, 2010 PN describing Tessera Solar North America's proposed 6,500 acre Imperial Valley Solar Project located in Imperial County, California. The project proposes discharges of dredged or fill material that would eliminate 167 acres of jurisdictional desert streams tributary to the New River and the Salton Sea. As proposed, these discharges may result in substantial and unacceptable impacts to "aquatic resources of national importance" (ARNI). The streams at this project site perform critical hydrologic, biogeochemical and habitat functions directly affecting the integrity and functional condition of the New River and Salton Sea, both listed as impaired waterbodies under the Clean Water Act (CWA) sect. 303(d). This letter identifies the permit action as a candidate for review by our respective headquarters pursuant to our agencies' established procedures.¹

The 878 acres of jurisdictional desert streams on the project site are a critical part of the Salton Sea Transboundary Watershed. There has been significant federal, state and community investment in the protection and improvement of this watershed for its agricultural, environmental and recreational values. Since the mid-1960's, federal and state agencies have undertaken and funded efforts to address salinity and other water quality problems, including \$1.5 million of EPA funding for water quality and wetland restoration projects at the Salton Sea, and \$62 million of EPA funding for wastewater infrastructure to protect human health and improve water quality in the New River.

The streams that would be directly impacted by this project provide services such as sediment transport and deposition, energy dissipation, and ground water recharge. They provide hydrological, biological and geochemical connectivity to the New River and Salton Sea, including connectivity to the Salton Sea National Wildlife Refuge. These waters represent a critical stop on the Pacific Flyway for migrating birds, including several state and federal listed and threatened species. The project site also provides a variety of habitat types for reptiles and mammals, including the flat-tailed horned lizard (*Phrynosoma mcallii*), proposed for listing under the Endangered Species Act, and Peninsula bighorn sheep (*Ovis Canadensis nelsoni*), a listed endangered species. All of these important functions will be lost or degraded by the

proposed installation of 30,000 SunCatcher dish Stirling systems and their associated equipment and infrastructure. These impacts may result in an irreversible loss of biodiversity and ecosystem stability, and harm the State of California's efforts to control and reduce pollutants and stressors currently impairing the New River and Salton Sea, such as pesticides, nutrients, salinity and selenium. Wastewater, agricultural return flows and industrial discharges are likely sources of these impairments, and the modification of flow and sedimentation regimes upstream will further reduce watershed resiliency and impact beneficial uses throughout the watershed.

Section 404 of the Clean Water Act prohibits avoidable discharges of dredged or fill material to waters of the United States. Proposals for discharges must meet EPA's regulatory standards at 40 CFR 230.10, including a comprehensive evaluation of project alternatives that avoid and minimize impacts to the aquatic environment. The only permissible discharge is the "Least Environmentally Damaging Practicable Alternative" (LEDPA). The applicant has provided a preliminary draft 404(b)(1) alternatives analysis and we are anticipating additional information on offsite alternatives, and site design (e.g., fencing and roads, additional avoidance of SunCatchers placed in desert streams, development of in holdings, alternative substation and building locations, etc.). On April 28, 2010, your staff met with us and the applicant to discuss the most recent project proposals which, if developed and approved, could further reduce impacts to aquatic resources. We are committed to continuing to work together to ensure authorization of the LEDPA and avoid elevation of this permitting decision to Washington DC.

If you wish to discuss this matter, please call me at (415) 972-3572 or have your staff contact Jason Brush, Supervisor of our Wetlands Office, at (415) 972-3483.

Sincerely,

 12 May 2010
Alexis Strauss, Director
Water Division

cc: USFWS, Carlsbad
RWQCB (7), Colorado River Basin Region
Tessera Solar North America

¹ This letter follows field level procedures outlined in the August 1992 Memorandum of Agreement between the EPA and the Department of the Army, Part IV, paragraph 3(a) regarding section 404(q) of the Clean Water Act.